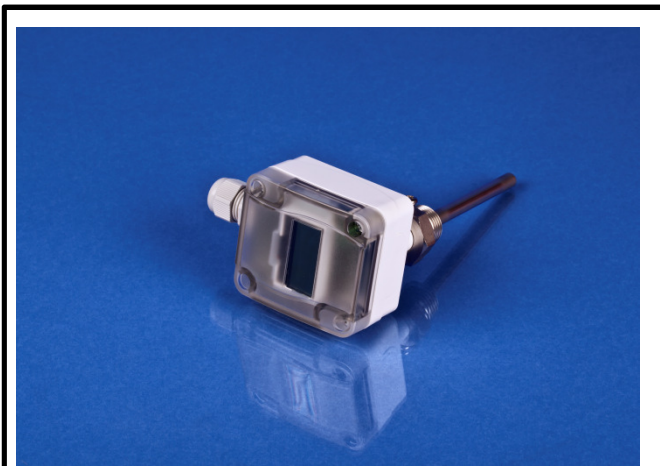




TITB 010 100
Immersion temperature transmitter with brass pocket without LCD display



TITS 010 100D
Immersion temperature transmitter with stainless steel pocket and with LCD display

Features

- Active transmitters
0-10 Vdc or 4-20 mA output
- With or without display
- 8 different temperature ranges in same unit, selectable via jumpers on pcb

-20°C to +150°C, -50°C to +50°C, -20°C to +80°C, -30°C to +60°C, 0 to +40°C, 0 to +50°C, 0 to +100°C and 0 to +150°C.

other temperature ranges on request
- Standard probe/pocket length 100 mm
On request 50, 150, 200, 250 or 300 mm probe lengths
- Pockets in brass (TITB) up to 16 bar / 0 +150°C and pockets in stainless steel (TITS) up to 40 bar / +600°C
- Pocket thread connection G1/2"
- IP65 enclosure with quick locking screws

Ordering

Immersion temperature transmitter

| Type no. | Output | Probe/pocket length | Pocket material | Display |
|----------------------|----------|---------------------|-----------------|---------|
| TITB 010 100 | 0-10 Vdc | 100 mm | Brass | No |
| TITB 010 100D | 0-10 Vdc | 100 mm | Brass | Yes |
| TITS 010 100 | 0-10 Vdc | 100 mm | Stainless steel | No |
| TITS 010 100D | 0-10 Vdc | 100 mm | Stainless steel | Yes |
| TITB 420 100 | 4-20 mA | 100 mm | Brass | No |
| TITB 420 100D | 4-20 mA | 100 mm | Brass | Yes |
| TITS 420 100 | 4-20 mA | 100 mm | Stainless steel | No |
| TITS 420 100D | 4-20 mA | 100 mm | Stainless steel | Yes |

Above TITB / TITS are with probe/pocket length 100 mm
To order TITB / TITS with probe length 50, 150, 200, 250 or 300 mm:
Replace 100 with 50, 150, 200, 250 or 300

Examples:

Ordering code for TITB with 0-10 Vdc output and 200 mm probe brass pocket length without display will be TITB 010 200.

Ordering code for TITS with 4-20 mA output and 250 mm probe / stainless steel pocket length with display will be TITS 420 250D.

Description

The immersion temperature transmitters TITB / TITS are used for acquiring the temperature of water, liquid or gaseous media (e.g. heating water) in heating, ventilation and air conditioning systems.

The TITB/TITS are active immersion temperature transmitters with 0-10 Vdc or 4-20 mA output.

Immersion temperature transmitters TITB / TITS have 8 different temperature ranges in same unit, selectable via jumpers on pcb:
-20C to +150C, -50C to +50C, -20 to +80C, -30C to +60C, 0 to +40C, 0 to +50C, 0 to +100C and 0 to +150C.
Other temperature ranges on request.

The power supply for immersion temperature transmitters TITB / TITS with 4-20 mA output is 15-36 Vdc and the power supply for immersion temperature transmitters TITB / TITS with 0-10 Vdc output is 24 Vac/dc.

The active immersion temperature transmitters TITB / TITS with output 0-10 Vdc and 4-20 mA have a PT1000 sensor (DIN EN 60751, class B).

The sensing element for the immersion temperature transmitters TITB / TITS is located in the end of the probe.

Immersion temperature transmitters TITB / TITS have IP65 enclosure.

Wiring connection for immersion temperature transmitters TITB / TITS is inside the ABS plastic enclosure on a terminal block.

The enclosure of immersion temperature transmitters TITB / TITS is supplied with a plastic cable entry gland M 16 x 1.5, including strain relief.

TITB / TITS immersion temperature transmitters can be supplied with or without LCD display.

Standard probe / pocket length for immersion temperature transmitters TITB / TITS is 100 mm and on request the immersion temperature transmitters TITB / TITS can be supplied with probe / pocket lengths 50, 150, 200, 250 and 300 mm.

The probe of immersion temperature transmitters TITB / TITS is made of quality steel.

The immersion temperature transmitters TITB-versions are supplied with brass pocket for operation pressures up to 16 bar and temperature up to 0 +150°C

The immersion temperature transmitters TITS-versions are supplied with stainless steel pocket for operation pressures up to 40 bar and temperature up to +600°C

The pockets of the immersion temperature transmitters TITB / TITS have G1/2" threaded connector.

Technical data

Measuring ranges

multi-range switching with 8 switchable measuring ranges, see table (other ranges optional) with manual zero point correction ($\pm 10K$).

Working resistance

$R_a \text{ (ohm)} = (U_b - 14 \text{ V}) / 0.02 \text{ A}$ for I variant

Load resistance

$R_L > 5 \text{ kOhm}$ for U variant

Sensing element

PT1000, DIN EN 60751, class B

Outputs

0-10 Vdc, 3-wire (TITB 010 / TITS 010 types)
4-20 mA, 2-wire (TITB 420 / TITS 420 types)

Power supply

24 Vac/dc $\pm 10\%$ for output 0-10 Vdc (TITB 010 / TITS 010 types)
15-35 Vdc for output 4-20 mA (TITB 420 / TITS 420 types)

Deviation temperature

$\pm 0.2K$ at $+25^\circ C$

Power consumption

$< 1.0 \text{ VA} / 24 \text{ Vdc}$; $< 2.2 \text{ VA} / 24 \text{ Vac}$

Ambient temperature

Measuring transducer $-30^\circ C$ to $+70^\circ C$

Humidity

$< 95\%$ r.H. non-precipitating air

Protection class

III (according to EN 60730)

Protection type

IP65 (according to EN 60529)

Enclosure

plastic, UV-stabilised, material polyamide, 30 % glass-globe-reinforced, with quick-locking screws (slotted/Phillips head combination), colour traffic white (similar to RAL 9016), enclosure cover for display is transparent!

Enclosure dimensions

72x64x37.8 mm (without display)
72x64x43.3 mm (with display)

Cable gland

M 16 x 1.5, including strain relief, exchangeable, max. inner diameter 10.4 mm

Electrical connection

0.14 - 1.5 mm² via terminal screws on circuit board

Probe material

Stainless steel 1.4571, V4A

Probe diameter

6 mm

Probe /pocket length

100 mm standard length,
on request 50, 150, 200, 250 and 300 mm

Contin. Technical data

TITB pocket:

brass, nickel plated
Max pressure 10 Bar
Tmax $+150^\circ C$
G1/2" straight pipe thread,
wrench 22 mm, dia 8mm

TITS pocket

stainless steel 1.4571, V4A
Max pressure 40 Bar
Tmax $+600^\circ C$
G1/2" straight pipe thread,
wrench 27 mm, dia 8mm

Humidity

$< 95\%$ r. H., non-precipitating air

Protection class

III (according to EN 60 730)






Standards

CE conformity,
electromagnetic compatibility
according to EN 61326
according to EMC directive 2004/30/EU

Display

Two-line display with illumination cutout 36x15 mm (W x H), for displaying actual temperature and integral diagnostics (measuring range exceeded, measuring range not reached, sensor breakage, sensor short circuit)

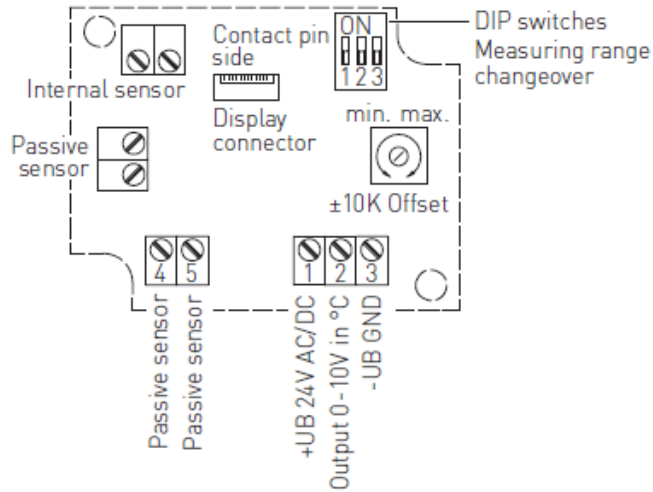
Display and internal diagnostics

| | |
|--|-----------------------------|
|  | Standard |
|  | Measuring range exceeded |
|  | Measuring range not reached |
|  | Sensor breakage |
|  | Sensor short circuit |

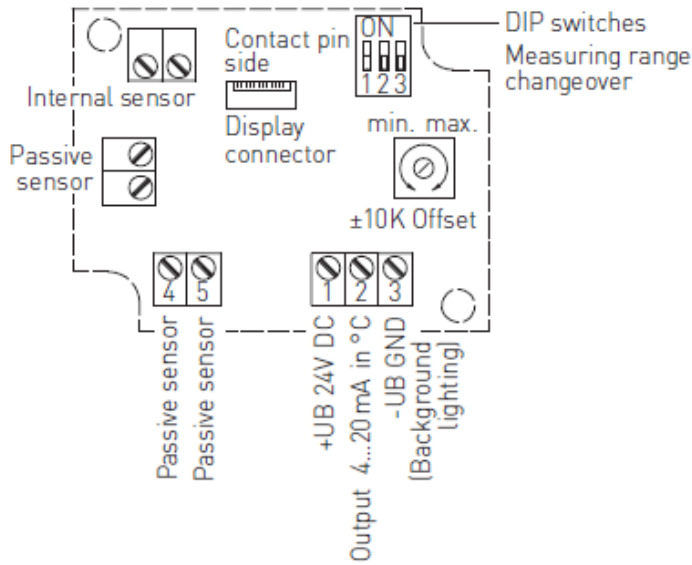
Temperature ranges

When selecting measuring transducer ranges, it is necessary to ensure that the maximum temperatures permissible for sensor/enclosure are not exceeded !
Ambient temperature for measuring transducers: -30 to $+70^\circ C$

Wiring TITB and TITS with 0-10 Vdc output



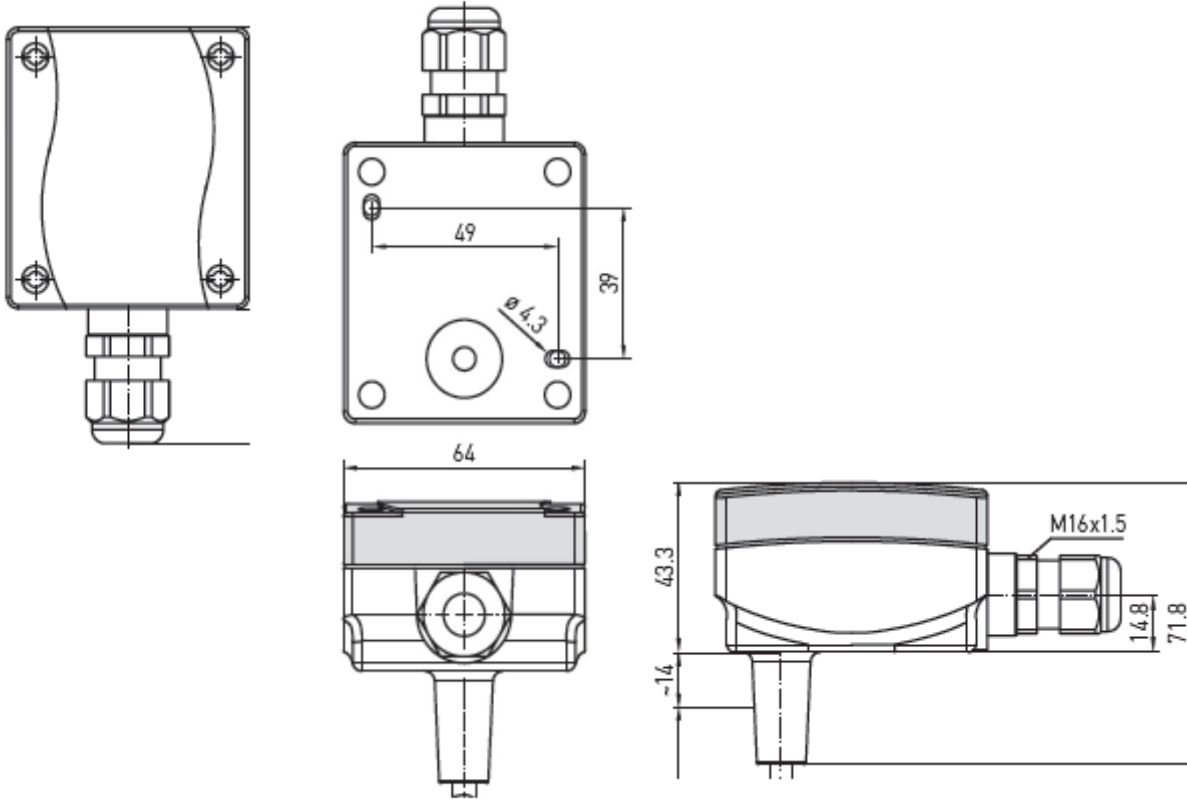
Wiring TITB and TITS with 4-20 mA output



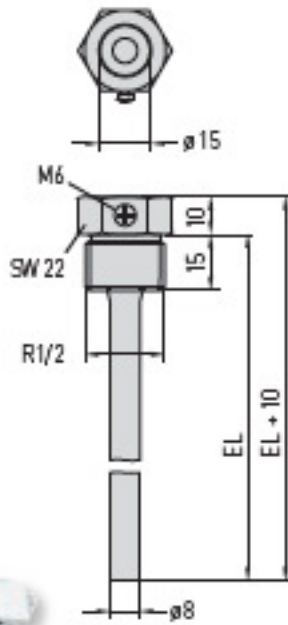
8 different temperature ranges in same unit, selectable via jumpers on pcb

| Measuring ranges (adjustable) | DIP 1 | DIP 2 | DIP 3 |
|-------------------------------|-------|-------|-------|
| -20°C ... +150°C | ON | ON | ON |
| -50°C ... +50°C | OFF | ON | ON |
| -20°C ... +80°C | ON | OFF | ON |
| -30°C ... +60°C | OFF | OFF | ON |
| 0°C ... +40°C | ON | ON | OFF |
| 0°C ... +50°C | OFF | ON | OFF |
| 0°C ... +100°C | ON | OFF | OFF |
| 0°C ... +150°C | OFF | OFF | OFF |

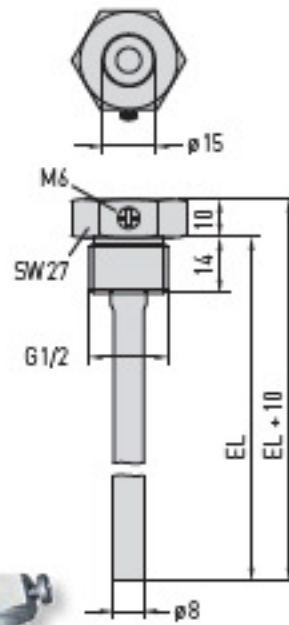
Dimensions enclosure TITB / TITS



Pockets TITB / TITS



TITB



TITS

Mounting TITB / TITS

